	Consultant name	Thesis topic name	Professional content of the Thesis topic
1	Dr. Sándor Bodzás	Design of manufacturing technologies for selected workpieces	technological analysis of the technical drawing, selection of working machines, tool selection form standard the technological parameters, computer aided manufacturing (CAM), CNC program writing, sample produc
2	2 Dr. Sándor Bodzás	Design of workpieces or tools clamping devices	the fixation of the freedom degrees, design of the device elements, assembly process plan, computer aided d analysis, finite element method analysis (FEM)
	3 Dr. Sándor Bodzás	Design of cutting tools	design of form tool or circular form tool for various workpieces, computer aided design (CAD), creation of geometries, finite element method analysis (FEM)
2	1 Dr. Sándor Bodzás	Design and modelling of toothed drive pairs	design of toothed gears (straight or helical), bevel gears (straight or helical), computer aided design (CAD), (FEM), design and analysis of manufacturing technologies
4	5 Dr. Sándor Bodzás	Design of assembly technologies	computer aided modelling of built parts (CAD), creation of assembly operation process plan, designing of as the designing of assembly dimension chains, tolerances' determination, assembly simulations
6	5 Dr. Tamás Mankovits	Modelling and finite element analysis of cellular structures	CAD modelling of closed-cell aluminum foam or cellular structure designed for additive manufacturing, des the designed structure is manufactured, finite element analysis and evaluation of the results
7	7 Dr. Tamás Mankovits	Optimization of engineering part using finite element method	CAD modelling of the investigated part, establishment of the finite element model, finite element analysis a design using integrated CAD system
8	3 Dr. Tamás Mankovits	Finite element analysis of engineering structures	Establishment of the finite element model of the investigated structure, finite element analysis and detailed redesing and control calculation
ç	Dr. Dávid Huri	Comparison of Hyperelastic Material Models Under Tensile Test of Rubber Specimen	Introduce the mechanical properties of rubber, research the available material model, Carry out tensile test of several hyperelastic material model, compare the material models, Run finite element investigation of tensil
10) Dr. Dávid Huri	Plastic dumbbell-shaped specimen cutting using CNC milling machine	Introduce the mostly used standard shapes of dumbbell specimens, Determine the fixture setup for sheet and of milling operations, Write a parameterized ISO G-Code program for CNC milling process.
11	l Dr. Dávid Huri	Numerical Simulation of Crack Growth Rate	Introduce the material failure theories, Introduce the fracture mechanics methodology, Introduce the evaluat simulation of crack growth rate using ANSYS software.
12	2 Dr. Dávid Huri	Finite element modelling and optical measuring of material test	Development of test method for the material testing machine available at the Department of Mechanical En- INSTRON 1196) to determine the mechanical properties of the investigated material, determination and val parameters for metals and polymers using finite element modeling (e.g.: four - point bending test, creep pro- steel sheets, etc.)
13	3 Dániel Nemes	Speeding up mechanical design using system modeling	The student has to use programming and modelling knowledge in Matlab and synthesize dynamic systems a control technology.
14	4 András Gábora	Production technology for closed cells aluminium foams	Direct foaming prosesses from melted Duralcan alloy
15	5 András Gábora	Tribological investigation for closed cells aluminium foams	Wearing measurement on metal foam speciments
16	5 Tibor Pálfi	Design and modelling of a component for a car	
17	7 Dr. Hajdu Sándor	Dynamic modelling of machines in Matlab/Simulink environment	
18	3 Dr. Hajdu Sándor	Simulation analysis of pneumatic systems	
19	Dr. Hajdu Sándor	Design of experimental and demonstration devices for the investigation of mechanical phenomena	

d catalogues, technological process design, determination of etion, technological analysis

design (CAD), creation of the technical drawings, accuracy

the technical drawing, analysis of the tool's edge

tooth connection analysis (TCA) by finite element software

ssembly trees, computer aided assembly designing (CAD),

structive or non-destructive investigations and evalutation if

and detailed evaluation, part optimization or generative

evaluation using FE software, suggestions for redesign,

of a rubber specimen, Determine the material constants for le test

1 pipe stock material, Calculate the technological parameters

tion of fracture mechanics parameters, Solve a numerical

gineering (INSTRON 8801, INSTRON 68TM-10, lidation of quasi-static and time-dependent material model perties of polymers, determination of the hardening curve of

and differential equations. This topic combines design and